

1   **Claims:**

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3   1.    A remote diagnostics system for POS appliances, wherein said system  
4    comprises:

5       a central control unit including a display and a memory; and  
6       a plurality of POS appliances remote from and serviced by said control  
7    unit;

8       wherein said control unit includes therein:

9       a plurality of problems which may occur on said appliances;

10      a plurality of diagnostic queries which may be answered manually by a  
11   operator of the control unit or in an automated manner by said control unit;

12      a plurality of diagnostic rules associated with each of the automated  
13   queries, each said rule acting on data obtained from said appliances to provide  
14   an answer to its associated query;

15      a decision tree for each of said problems, each said decision tree relating  
16   various of said queries with one another in accordance with the possible  
17   answers to said queries; and

18      a diagnostics engine which, on input of a said problem, executes a series  
19   of said queries in a sequence determined by the decision tree for said problem  
20   and by the answers to said queries, said diagnostics engine displaying said  
21   queries on said display, as well as prompting said operator to answer queries  
22   which require a manual input.

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24   2.    The system of claim 1, wherein said diagnostics engine displays the  
25   answers to said automated queries on the display of the control unit.

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27   3.    The system of claim 1, wherein the diagnostics engine requests the  
28   operator of the central control to confirm that an automated query should be  
29   executed before executing said automated query.

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31   4.    The system of claim 1, wherein the diagnostics engine provides the  
32   option of answering an automated query manually.

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5. A method for the remote diagnosis of problems occurring in POS appliances, comprising the steps of:

providing a central diagnostic unit remote from said POS appliances;

importing definitions into said diagnostics unit of monitored items maintained by said POS appliances;

defining a plurality of possible problems which may occur in said POS appliances;

defining manual and automated queries which may be used to diagnose said possible problems;

associating with each automated query a rule which provides an answer to its associated query by acting on data, relating to one or more of the monitored items, associated with the appliance to be diagnosed;

defining a decision tree for each of said problems, each said decision tree relating various of the manual and automated queries with one another in accordance with the possible answers to said queries; and

providing a diagnostics engine which, on input of a said problem, executes a series of said manual and automated queries in a sequence determined by the decision tree for said problem and by the answers to said queries, said diagnostics engine displaying said queries on a display of said central diagnostics unit, as well as prompting said operator to answer queries which require a manual input.

6. The method of claim 5, including the step of displaying the answers to the automated queries on the display of the diagnostics unit.

7. The method of claim 5, including the step of requesting confirmation from an operator before executing an automated query.

8. The method of claim 5, including the step of enabling the operator to answer an automated query manually.

9. A system for the remote diagnosis of problems occurring in a plurality of POS appliances by a remote central control unit which is provided with definitions as to data maintained by said POS appliances, wherein said control

unit includes a diagnostics engine therein which displays a plurality of diagnostic queries to the operator of the control unit, the queries being answerable either manually by the operator or automatically by the control unit, and wherein the diagnostics engine displays said queries in an order specified by decision trees that relate the queries to one another based on the possible answers to each query and on the possible problems that might be encountered in the POS appliances, with the results of said queries being displayed both for the manual and automated queries, and with an automated query only being answered on confirmation by the operator to proceed.

10. POS appliance helpdesk computer software for conducting the remote diagnosis of a problem in a POS appliance from a central control unit, the software including:

- a plurality of problems which may occur in said POS appliance;

- a plurality of diagnostic queries which may be answered manually by an operator of the control unit or in an automated manner by said control unit;

- a plurality of diagnostic rules associated with each of the automated queries, each said rule acting on data obtained from said appliance to provide an answer to an associated query;

- a decision tree for each of said problems, each said decision tree relating various of said queries with one another in accordance with the possible answers to said queries; and

- a diagnostics engine which, on input of a said problem, executes a series of said queries in a sequence determined by the decision tree of said problem and by the answers to said queries, said diagnostics engine displaying said queries on a display of said central control unit, as well as prompting said operator to answer queries which require a manual input.